



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/040,254	01/04/2002	Thierry Valet	59559-8017.US01	9462
22918	7590	03/03/2009		
PERKINS COIE LLP P.O. BOX 1208 SEATTLE, WA 98111-1208			EXAMINER PIZIALI, JEFFREY J	
			ART UNIT 2629	PAPER NUMBER
			MAIL DATE 03/03/2009	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/040,254	Applicant(s) VALET, THIERRY	
	Examiner Jeff Piziali	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2008 and 25 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5,7-9,14-18 and 20-24 is/are pending in the application.
- 4a) Of the above claim(s) 7,9,14-18,20,21 and 24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,8,22 and 23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings have not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the figures.

Specification

2. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Election/Restrictions

3. Applicant's election without traverse of Group I (claims 1-5, 8, 22, and 23) in the reply filed on 12 December 2008 is acknowledged and appreciated.

4. Claims 7, 9, 14, 15, and 24 are newly withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 12 December 2008.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

Art Unit: 2629

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1-5 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.

The claim contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention.

Claim 1 newly recites, "*a movement sensing means for sensing movements of the device in more than one plane of motion wherein the movement sensing means contains a single accelerometer chip, having one force sensitive axis, mounted at a non-perpendicular angle with respect to the circuit board*" (lines 4-6)

This subject matter is not found in the original disclosure of the invention.

Claim 5 newly recites (as of the amendment filed 25 June 2008), "*motion of said hand held device controls an orientation of an object viewed on said display.*"

This subject matter is not found in the original disclosure of the invention.

7. Claims 1-5, 8, 22, and 23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement.

Art Unit: 2629

The claim contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 1 newly recites, "***a movement sensing means for sensing movements of the device in more than one plane of motion wherein the movement sensing means contains a single accelerometer chip, having one force sensitive axis, mounted at a non-perpendicular angle with respect to the circuit board***" (lines 4-6)

This subject matter is not enabled by the original disclosure of the invention.

Claim 5 newly recites (as of the amendment filed 25 June 2008), "***motion of said hand held device controls an orientation of an object viewed on said display.***"

This subject matter is not enabled by the original disclosure of the invention.

Claim 22 newly recites, "***a single accelerometer mounted to the circuit board at non-perpendicular angles with respect to each of X, Y, and Z axes; wherein the single accelerometer senses motion in X, Y, and Z directions***" (lines 3-5)

This subject matter is not enabled by the original disclosure of the invention.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 2629

9. Claims 1-5, 8, 22, and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

10. Regarding claim 1, the word "**means**" is preceded by the word(s) "**a processor**" in an attempt to use a "**means**" clause to recite a claim element as a means for performing a specified function.

However, since no function is specified by the word(s) preceding "**means**," it is impossible to determine the equivalents of the element, as required by 35 U.S.C. 112, sixth paragraph. See *Ex parte Klumb*, 159 USPQ 694 (Bd. App. 1967).

11. Claims 2-5 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

An omitted structural cooperative relationship results from the claimed subject matter: "**a hand-held device**" (claim 1, line 1) and "**a hand held device**" (claims 2-5, line 1).

For example: It would be unclear to one having ordinary skill in the art whether the limitations are intended to be identical to, or distinct from, each other.

12. Claims 2-5 each recites the limitation "**a hand held device**" (claims 2-5, line 1). There is insufficient antecedent basis for this limitation in the claim.

Art Unit: 2629

13. Claim 2 recites the limitation "***the device***" (line 1). There is insufficient antecedent basis for this limitation in the claim.

14. Claim 3 provides for the use of "***the movements sensed by the movement sensing means... to control a display***," but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass.

A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim 3 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

15. The term "***around 19 degrees***" in claim 4 (line 2) is a relative term which renders the claim indefinite. The term "***around 19 degrees***" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

For example: It would be unclear to one having ordinary skill in the art how close to 19 degrees an angle would need to be before being considered "***around 19 degrees***." Is 20 degrees considered "***around 19 degrees***"? Is 80 degrees? How about 1 degree?

Art Unit: 2629

16. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

An omitted structural cooperative relationship results from the claimed subject matter: "***motion***" (claim 1, line 5) and "***motion***" (claim 5, line 2).

For example: It would be unclear to one having ordinary skill in the art whether the limitations are intended to be identical to, or distinct from, each other.

17. Claim 5 recites the limitation "***said hand held device***" (line 2). There is insufficient antecedent basis for this limitation in the claim.

18. Claim 5 recites the limitation "***viewed***" (line 2). There is insufficient antecedent basis for this limitation in the claim.

For example: It would be unclear to one having ordinary skill in the art who or what is doing the viewing.

19. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

An omitted structural cooperative relationship results from the claimed subject matter: "***a device***" (claim 22, line 1) and "***a device***" (claim 8, line 1).

Art Unit: 2629

For example: It would be unclear to one having ordinary skill in the art whether the limitations are intended to be identical to, or distinct from, each other.

20. Claim 8 recites the limitation "*the accelerometer chip*" (line 1). There is insufficient antecedent basis for this limitation in the claim.

21. Each of the terms "*X, Y, and Z*" in claim 22 (lines 4 & 5) is a relative term which renders the claim indefinite.

Each of the terms "*X, Y, and Z*" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

For example: It would be unclear to one having ordinary skill in the art what the terms/variables "*X, Y, and Z*" are intended to represent.

22. Claim 23 recites the limitation "*to reduce*" (line 1). There is insufficient antecedent basis for this limitation in the claim.

For example: It would be unclear to one having ordinary skill in the art what such a "*reduction*" is intended to be relative to.

23. The claims are rejected under 35 U.S.C. 112, second paragraph, as being indefinite.

Art Unit: 2629

As a courtesy to the Applicant, the examiner has attempted to also make rejections over prior art -- based on the examiner's best guess interpretations of the invention that the Applicant is intending to claim.

However, the indefinite nature of the claimed subject matter naturally hinders the Office's ability to search and examine the application.

Any instantly distinguishing features and subject matter that the Applicant considers to be absent from the cited prior art is more than likely a result of the indefinite nature of the claims.

The Applicant is respectfully requested to correct the indefinite nature of the claims, which should going forward result in a more precise search and examination.

Claim Rejections - 35 USC § 103

24. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

25. Claims 1-5, 8, 22, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over the instant *Application's Admitted Prior Art (AAPA)* in view of *Darley et al (US 6,122,340 A)* and *Svancarek (US 6,249,274 B1)*.

Regarding claim 1, the *AAPA* discloses a hand-held device [*e.g.*, *Fig. 2: 20*] comprising:
a circuit board;
a processor means [*e.g.*, *Fig. 4: 110*] attached to said circuit board;

Art Unit: 2629

a movement sensing means [e.g., Fig. 4: 110]

for sensing movements of the device in more than one plane of motion [e.g., Fig. 4: X, Y, Z] wherein

the movement sensing means contains a single accelerometer chip [e.g., a single one of the 3 accelerometers], having one force sensitive axis,

mounted at a non-perpendicular angle with respect to the circuit board (see the entire *AAPA*, including Page 1, Line 16 - Page 3, Line 6 and Page 6, Line 3 - Page 8, Line 14).

Wherein the *AAPA* states, "In summary, it is necessary in prior art systems to provide one accelerometer for each desired plane of motion, i.e. 3 accelerometers for the X, Y, and Z directions, respectively... some of the accelerometers must be mounted perpendicular to the circuit board" (see Page 3, Lines 1-6).

And wherein if "some of the accelerometers must be mounted perpendicular to the circuit board" then it inherently follows that at least one of the accelerometers must not be mounted perpendicular to the circuit board.

Moreover, the instant invention discloses that "sensing movements of the device in more than one plane of motion" is inherently accomplished by simply "mounting an accelerometer chip at an angle with respect to a circuit board":

"The present invention addresses the aforementioned problems by providing a single accelerometer chip placed at an angle with respect to the circuit board or other electronic

Art Unit: 2629

component which allows relative motion to be measured in multiple planes" (see Page 4, Lines 3-5).

"Motion sensing of the display may be done by a variety of different approaches including mounting an accelerometer chip at an angle with respect to a circuit board and also by having an angled circuit board as will be described in greater detail" (see Page 7, Lines 25-28).

"The preferred embodiment of the instant invention mounts a single accelerometer chip at some angle 'theta' 506 with respect to the plane of the circuit board 502 or the plane perpendicular to the circuit board 508. Mounting the chip at an angle allows the accelerometer to be sensitive of motion in more than one plane" (see Page 8, Lines 24-28).

Therefore, following the disclosure of the instant invention, the *AAPA's* non-perpendicularly mounted accelerometer inherently senses movements in more than one plane of motion.

Should it be shown that the *AAPA* teaches "*single accelerometer chip*" subject matter with insufficient specificity:

Darley discloses a hand-held device [e.g., Fig. 7; 100 -- wherein the housing unit is designed to be readily removed by hand] (see Column 4, Line 27) comprising:

a circuit board [e.g., Fig. 7; 700];

a processor means attached to said circuit board (see Column 6, Lines 6-53);

a movement sensing means

Art Unit: 2629

for sensing movements of the device in more than one plane of motion wherein the movement sensing means contains a single accelerometer chip [*e.g., Fig. 7; 704*], having one force sensitive axis [*e.g., Fig. 7; 118*], mounted at a non-perpendicular angle [*e.g., Fig. 7; θ*] with respect to the circuit board (*see the entire document, including Column 8, Line 62 - Column 9, Line 20*).

Wherein, again it is noted, the instant invention discloses that "*sensing movements of the device in more than one plane of motion*" is inherently accomplished by simply "*mounting an accelerometer chip at an angle with respect to a circuit board*."

Therefore, following the disclosure of the instant invention, ***Darley's*** non-perpendicularly mounted accelerometer inherently senses movements in more than one plane of motion.

The ***AAPA*** and ***Darley*** are analogous art because they are from the shared field of input devices using accelerometers to sense movement.

Therefore, it would have been obvious to provide the hand-held device of the ***AAPA*** with ***Darley's*** single non-perpendicularly angled accelerometer arrangement, so as to accurately sense movement of an active, walking user.

Art Unit: 2629

Should it be shown that neither the *AAPA* nor *Darley* teaches "*non-perpendicular angle*" subject matter with insufficient specificity:

Svancarek discloses a hand-held device [*e.g.*, *Fig. 3A; 100*] comprising:

- a circuit board [*e.g.*, *Fig. 2; 102, 106*];
- a processor means [*e.g.*, *Fig. 2; 128*] attached to said circuit board;
- a movement sensing means [*e.g.*, *Fig. 2; 104*]

for sensing movements of the device in more than one plane of motion wherein the movement sensing means contains a single accelerometer chip, having one force sensitive axis,

mounted at a non-perpendicular angle with respect to the circuit board (*see the entire document, including figures 4A-4C; column 5, line 51 - column 6, line 48 -- wherein 19 degrees is within the range between VREST and VG*).

Wherein, yet again it is noted, the instant invention discloses that "*sensing movements of the device in more than one plane of motion*" is inherently accomplished by simply "*mounting an accelerometer chip at an angle with respect to a circuit board*."

Therefore, following the disclosure of the instant invention, *Svancarek's* non-perpendicularly mounted accelerometer inherently senses movements in more than one plane of motion.

Art Unit: 2629

The **AAPA**, **Darley**, and **Svancarek** are analogous art because they are from the shared field of input devices using accelerometers to sense movement.

Therefore, it would have been obvious to provide the hand-held device of the **AAPA** and **Darley** with **Svancarek's** angled accelerometer technique, so as to sense a wide range of inclination angles.

Regarding claim 2, the **AAPA** discloses a hand held device as recited in claim 1 wherein the device is a personal digital assistant [*e.g., Fig. 2; 20*] (*see the entire document, including page 6, lines 6-12*).

Regarding claim 3, the **AAPA** discloses a hand held device as recited in claim 1 wherein the movements sensed by the movement sensing means are used to control a display [*e.g., Fig. 2; 28*] (*see the entire document, including page 7, lines 10-21*).

Regarding claim 4, the **AAPA** discloses a hand held device as recited in claim 1 wherein the non-perpendicular angle between the single accelerometer chip and the circuit board is around 19 degrees (*see the entire AAPA, including Page 3, Lines 1-6*).

Darley discloses a hand held device as recited in claim 1 wherein the non-perpendicular angle between the single accelerometer chip and the circuit board is around 19 degrees (*see the entire document, including Column 8, Line 62 - Column 9, Line 20*).

Art Unit: 2629

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use any suitable acute angle, such as.... 18° or 19° or 20°, because it is within the general skill of a worker in the art to select a known acute angle on the basis of its suitability and desired characteristics.

A patent claim can be proved obvious merely by showing that the combination of elements was obvious to try. When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product is not of innovation but of ordinary skill and common sense.

Svancarek discloses a hand held device as recited in claim 1 wherein the non-perpendicular angle between the single accelerometer chip and the circuit board is around 19 degrees (*see the entire document, including figures 4A-4C; column 5, line 51 - column 6, line 48 -- wherein 19 degrees is within the range between VREST and VG*).

Additionally, it would have been obvious to one having ordinary skill in the art at the time of invention to use a 19 degree accelerometer angle with the combined invention, because it would entail:

1. Combining prior art elements according to known methods to yield predictable results.
2. Simple substitution of one known element for another to obtain predictable results.

Art Unit: 2629

3. Use of known techniques to improve similar devices (methods or products) in the same way.

4. Applying a known technique to a known device (method or product) ready for improvement to yield predictable results.

5. Choosing from a finite number of identified, predictable solutions (i.e., to would have been obvious to try).

6. Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces/market place incentives if the variations are predictable to one of ordinary skill in the art.

See *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (U.S. 2007).

Regarding claim 5, ***Svancarek*** discloses a hand held device as recited in claim 1 further comprising a display [e.g., Fig. 1; 47], wherein

motion of said hand held device controls an orientation of an object viewed on said display (*see the entire document, including Column 1, Lines 5-54*).

Regarding claim 22, this claim is rejected by the reasoning applied in rejecting claim 1; furthermore, the ***AAPA*** discloses a device [e.g., Fig. 2: 20] comprising:

a circuit board; and

a single accelerometer [e.g., *a single one of the 3 accelerometers*] mounted to the circuit board at non-perpendicular angles with respect to each of X, Y, and Z axes; wherein

Art Unit: 2629

the single accelerometer senses motion in X, Y, and Z directions (*see the entire AAPA, including Page 1, Line 16 - Page 3, Line 6 and Page 6, Line 3 - Page 8, Line 14*).

Wherein the *AAPA* states, "*In summary, it is necessary in prior art systems to provide one accelerometer for each desired plane of motion, i.e. 3 accelerometers for the X, Y, and Z directions, respectively... some of the accelerometers must be mounted perpendicular to the circuit board*" (see Page 3, Lines 1-6).

And wherein if "*some of the accelerometers must be mounted perpendicular to the circuit board*" then it inherently follows that at least one of the accelerometers must not be mounted perpendicular to the circuit board.

Moreover, the instant invention discloses that "*sensing movements of the device in more than one plane of motion*" is inherently accomplished by simply "*mounting an accelerometer chip at an angle with respect to a circuit board*":

"*The present invention addresses the aforementioned problems by providing a single accelerometer chip placed at an angle with respect to the circuit board or other electronic component which allows relative motion to be measured in multiple planes*" (see Page 4, Lines 3-5).

"*Motion sensing of the display may be done by a variety of different approaches including mounting an accelerometer chip at an angle with respect to a circuit board and also by having an angled circuit board as will be described in greater detail*" (see Page 7, Lines 25-28).

Art Unit: 2629

"The preferred embodiment of the instant invention mounts a single accelerometer chip at some angle 'theta' 506 with respect to the plane of the circuit board 502 or the plane perpendicular to the circuit board 508. Mounting the chip at an angle allows the accelerometer to be sensitive of motion in more than one plane" (see Page 8, Lines 24-28).

Therefore, following the disclosure of the instant invention, the *AAPA's* non-perpendicularly mounted accelerometer inherently senses movements in more than one plane of motion.

Should it be shown that the *AAPA* teaches "*single accelerometer chip*" subject matter with insufficient specificity:

Darley discloses a device [e.g., Fig. 7; 100 -- wherein the housing unit is designed to be readily removed by hand] (see Column 4, Line 27) comprising:

a circuit board [e.g., Fig. 7; 700]; and

a single accelerometer [e.g., Fig. 7; 704] mounted to the circuit board at non-perpendicular angles with respect to each of X, Y, and Z axes; wherein

the single accelerometer senses motion in X, Y, and Z directions (*see the entire document, including Column 8, Line 62 - Column 9, Line 20*).

Art Unit: 2629

Wherein, again it is noted, the instant invention discloses that "*sensing movements of the device in more than one plane of motion*" is inherently accomplished by simply "*mounting an accelerometer chip at an angle with respect to a circuit board.*"

Therefore, following the disclosure of the instant invention, ***Darley's*** non-perpendicularly mounted accelerometer inherently senses movements in more than one plane of motion.

The ***AAPA*** and ***Darley*** are analogous art because they are from the shared field of input devices using accelerometers to sense movement.

Therefore, it would have been obvious to provide the hand-held device of the ***AAPA*** with ***Darley's*** single non-perpendicularly angled accelerometer arrangement, so as to accurately sense movement of an active, walking user.

Should it be shown that neither the ***AAPA*** nor ***Darley*** teaches "*non-perpendicular angle*" subject matter with insufficient specificity:

Svancarek discloses a device [*e.g., Fig. 3A; 100*] comprising:
a circuit board [*e.g., Fig. 2; 102, 106*]; and
a single accelerometer mounted to the circuit board at non-perpendicular angles with respect to each of X, Y, and Z axes; wherein

Art Unit: 2629

the single accelerometer senses motion in X, Y, and Z directions (*see the entire document, including figures 4A-4C; column 5, line 51 - column 6, line 48 -- wherein 19 degrees is within the range between VREST and VG*).

Wherein, yet again it is noted, the instant invention discloses that "*sensing movements of the device in more than one plane of motion*" is inherently accomplished by simply "*mounting an accelerometer chip at an angle with respect to a circuit board*."

Therefore, following the disclosure of the instant invention, ***Svancarek's*** non-perpendicularly mounted accelerometer inherently senses movements in more than one plane of motion.

The ***AAPA***, ***Darley***, and ***Svancarek*** are analogous art because they are from the shared field of input devices using accelerometers to sense movement.

Therefore, it would have been obvious to provide the hand-held device of the ***AAPA*** and ***Darley*** with ***Svancarek's*** angled accelerometer technique, so as to sense a wide range of inclination angles.

Regarding claim 8, the ***AAPA*** discloses the accelerometer chip senses acceleration in a plurality of non-parallel planes of motion (*see the entire AAPA, including Page 3, Lines 1-6*).

Art Unit: 2629

Darley discloses the accelerometer chip senses acceleration in a plurality of non-parallel planes of motion (*see the entire document, including Column 8, Line 62 - Column 9, Line 20*).

Svancarek discloses the accelerometer chip senses acceleration in a plurality of non-parallel planes of motion (*see the entire document, including figures 4A-4C; column 5, line 51 - column 6, line 48 -- wherein 19 degrees is within the range between VREST and VG*).

Wherein, yet again it is noted, the instant invention discloses that "*sensing movements of the device in more than one plane of motion*" is inherently accomplished by simply "*mounting an accelerometer chip at an angle with respect to a circuit board*."

Regarding claim 23, the **AAPA** discloses the angles are such as to reduce a footprint of the device in a direction perpendicular to the circuit board (*see the entire AAPA, including Page 3, Lines 1-6*).

Darley discloses the angles are such as to reduce a footprint of the device in a direction perpendicular to the circuit board (*see the entire document, including Column 8, Line 62 - Column 9, Line 20*).

Svancarek discloses the angles are such as to reduce a footprint of the device in a direction perpendicular to the circuit board (*see the entire document, including figures 4A-4C*;

Art Unit: 2629

column 5, line 51 - column 6, line 48 -- wherein 19 degrees is within the range between VREST and VG).

Response to Arguments

26. Applicant's arguments filed 25 June 2008 have been fully considered but they are not persuasive.

Applicant's arguments with respect to claims 1-5, 8, 22, and 23 have been considered but are moot in view of the new ground(s) of rejection.

By such reasoning, rejection of the claims is deemed necessary, proper, and thereby maintained at this time.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Piziali whose telephone number is (571)272-7678. The examiner can normally be reached on Monday - Friday (6:30AM - 3PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chanh Nguyen can be reached on (571) 272-7772. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jeff Piziali/
Primary Examiner, Art Unit 2629
25 February 2009